IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF OREGON

ANDRITZ INC., a Georgia corporation, and ANDRITZ AB, a Swedish corporation,

Plaintiffs,

v.

CORTEX NORTH AMERICA CORPORATION, an Oregon corporation,

Defendant.

Case No. 3:20-cv-00029-SB

CLAIM CONSTRUCTION OPINION AND ORDER

BECKERMAN, U.S. Magistrate Judge.

Andritz Inc. and Andritz AB (together, "Andritz") bring this patent infringement case against Cortex North America Corporation ("Cortex"). Andritz alleges that Cortex infringed U.S. Patent Nos. 7,159,626 (the "'626 patent"), 7,506,674 (the "'674 patent"), 7,681,609 (the "'609 patent"), and 8,082,958 (the "'958 patent"). The patents concern wood working knives and clamping assemblies that are designed for use in industrial-scale timber processing equipment.

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The parties disagree over the construction of seventeen claim terms. (ECF No. 47 at 2-3.[1]) On May 28, 2021, the Court held a claim construction hearing. Based upon the parties' submissions and arguments of counsel, the Court construes the disputed claim terms as set forth below.

ANALYSIS

I. LEGAL STANDARDS[2]

A patent "infringement analysis entails two steps." *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed. Cir. 1995) (en banc). First, the court must determine "the meaning and scope of the patent claims asserted to be infringed." *Id.* Second, "the factfinder determines whether the accused product or method infringes the asserted claims as construed." *Ni-Q, LLC v. Prolacta Bioscience, Inc.*, No. 3:17-cv-934-SI, 2018 WL 2943440, at *1 (D. Or. June 12, 2018) (citing *Markman*, 52 F.3d at 976). The "first step, claim construction, is a matter of law[.]" *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996) (citing *Markman*, 52 F.3d at 979).

"It is a 'bedrock principle' of patent law that 'the claims of a patent define the invention to which the patentee is entitled the right to exclude.'" *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (quoting *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). The Supreme Court has explained that "[b]ecause the patentee is required to 'define precisely what his invention is,' . . . it is 'unjust to the public, as well as an evasion of the law, to construe it in a manner different from the plain import of its

[1] This Opinion cites to the CM/ECF-generated document and page numbers located at the top of each page.

[2] "The proper construction of a patent's claims is an issue of Federal Circuit law." *Endo Pharm. Inc. v. Actavis LLC*, 922 F.3d 1365, 1370 (Fed. Cir. 2019) (simplified).

terms.'" *Id.* (quoting *White v. Dunbar*, 119 U.S. 47, 52 (1886)). "Attending this principle, a claim construction analysis must begin and remain centered on the claim language itself, for that is the language the patentee has chosen to 'particularly point[] out and distinctly claim[] the subject matter which the patentee regards as his invention.'" *Innova/Pure Water*, 381 F.3d at 1116 (citation omitted).

"In determining the proper construction of a claim, the court has numerous sources that it may properly utilize for guidance." *Vitronics*, 90 F.3d at 1582. Those sources include "both intrinsic evidence (*e.g.*, the patent specification and file history) and extrinsic evidence (*e.g.*, expert testimony)." *Id.* It is well settled, however, that in "interpreting an asserted claim, the court should look first to the intrinsic evidence of record, *i.e.*, the patent itself, including the claims, the specification and, if in evidence, the prosecution history," because that is the "most significant source of the legally operative meaning of disputed claim language." *Id.* (citation omitted).

The Federal Circuit has "frequently stated that the words of a claim 'are generally given their ordinary and customary meaning.'" *Phillips*, 415 F.3d at 1312 (quoting *Vitronics*, 90 F.3d at 1582). "There are two exceptions to this general rule: (1) 'when a patentee sets out a definition and acts as his own lexicographer;' or (2) 'when the patentee disavows the full scope of a claim term either in the specification or during prosecution.'" *Boydstun Equip. Mfg., LLC v. Cottrell, Inc.*, No. 3:16-cv-790-SI, 2017 WL 4682301, at *1 (D. Or. Oct. 18, 2017) (quoting *Thorner v. Sony Comput. Entm't Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012)); *see also Hormone Rsch. Found., Inc. v. Genentech, Inc.*, 904 F.2d 1558, 1563 (Fed. Cir. 1990) (stating that it is an "axiom in patent law that a patentee is free to be his or her own lexicographer and thus may use terms in

a manner contrary to or inconsistent with one or more of their ordinary meanings") (citation omitted).

"[T]he ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, *i.e.*, as of the effective filing date of the patent application."[3] *Phillips*, 415 F.3d at 1313. That is so because "inventors are typically persons skilled in the field of the invention and . . . patents are addressed to and intended to be read by others of skill in the pertinent art." *Id.* Notably, "the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." *Id.* (citing *Multiform Desiccants, Inc. v. Medzam, Ltd.*, 133 F.3d 1473, 1477 (Fed. Cir. 1998)). "The specification contains a written description of the invention which must be clear and complete enough to enable those of ordinary skill in the art to make and use it," and which "acts as a dictionary when it expressly defines terms used in the claims or when it defines terms by implication." *Vitronics*, 90 F.3d at 1582 (citing *Markman*, 52 F.3d at 979). The specification is therefore "always highly relevant to the claim construction analysis," as it is "[u]sually . . . dispositive" and "the single best guide to the meaning of a disputed term." *Id.*

For some claims, "the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases

[3] The parties agree that a person of ordinary skill in the art ("POSITA") "in the field of the [a]sserted [p]atents at the time of the claimed invention would have at least a bachelor's degree in mechanical engineering, or equivalent industry experience, including at least two years of experience with the manufacture of cutting edges." (ECF No. 47 at 14; *see also* 5/28/21 Tr. at 19:19-23 ("In this case, as we discussed, I think we agree basically on what a POSITA is, I think we now completely agree, so I'm paraphrasing here. It's a mechanical engineer, and now I think we've agreed it's a mechanical engineer who has at least 2 years of experience in this industry.").

involves little more than the application of the widely accepted meaning of commonly understood words." *Phillips*, 415 F.3d at 1314 (citing *Brown v. 3M*, 265 F.3d 1349, 1352 (Fed. Cir. 2001)). If that is the case, "general purpose dictionaries may be helpful." *Id.* A finding that "'a claim term needs no construction or has [its] plain and ordinary meaning' may [also] be sufficient when, for example, a term has only 'one ordinary meaning or when reliance on a term's ordinary meaning . . . resolve[s] the parties' dispute.'" *Boydstun*, 2017 WL 4682301, at *2 (quoting *O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1361 (Fed. Cir. 2008)).

For other claims, "determining a claim's ordinary and customary meaning requires further examination . . . because the meaning is not 'immediately apparent,' terms 'have a particular meaning in a field of art,' or the patentee has used a term 'idiosyncratically.'" *Id.* (quoting *Phillips*, 415 F.3d at 1314). If that is the case, "a court construing the claim will consider 'those sources available to the public that show what a person of skill in the art would have understood disputed claim language to mean.'" *Id.* (quoting *Innova/Pure Water*, 381 F.3d at 1116). Those sources include "[o]ther claims of the patent in question, both asserted and unasserted, [which can] be valuable sources of enlightenment as to the meaning of a claim term." *Phillips*, 415 F.3d at 1314 (citing *Vitronics*, 90 F.3d at 1582). "[T]he usage of a term in one claim can often illuminate the meaning of the same term in other claims" because "claim terms are normally used consistently throughout the patent," *id.*, and "[c]ourts should . . . interpret claim terms in a manner that does not render subsequent claim terms superfluous." *Boydstun*, 2017 WL 4682301, at *2.

A court construing a claim may also consider the patent specification, which may reveal a special, governing "definition given to a claim term by the patentee that differs from the meaning

it would otherwise possess," or which "may reveal an intentional disclaimer, or disavowal, of claim scope by the inventor." *Phillips*, 415 F.3d at 1316 (citations omitted). Furthermore, a court can consider "the patent's prosecution history, if it is in evidence.'" *Id.* at 1317 (quoting *Markman*, 52 F.3d at 980). The prosecution history consists of the complete record of the proceedings before the Patent and Trademark Office ("PTO"), including "prior art cited during the examination of the patent." *Id.* Like the patent specification, the prosecution history, which was "created by the patentee in attempting to explain and obtain the patent," provides evidence regarding "how the PTO and the inventor understood the patent." *Id.* (citations omitted). However, courts have recognized that "because the prosecution history represents an ongoing negotiation between the PTO and the applicant, rather than the final product of that negotiation, it often lacks the clarity of the specification and thus is less useful for claim construction purposes." *Id.*; *see also Vitronics*, 90 F.3d at 1582 (explaining that if the prosecution history includes "any express representations made by the applicant regarding the scope of the claims," it can be of "critical significance in determining the meaning of the claims").

Courts may also consider extrinsic evidence (i.e., "all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises") to construe a claim. *Boydstun*, 2017 WL 4682301, at *3 (simplified). Expert testimony, for example,

> can be useful to a court for a variety of purposes, such as to provide background on the technology at issue, to explain how an invention works, to ensure that the court's understanding of the technical aspects of the patent is consistent with that of a person of skill in the art, or to establish that a particular term in the patent or the prior art has a particular meaning in the pertinent field.

Phillips, 415 F.3d at 1318 (citations omitted). Nevertheless, "conclusory, unsupported assertions by experts as to the definition of a claim term are not useful to a court," and "a court should discount any expert testimony that is clearly at odds with the claim construction mandated by the

claims themselves, the written description, and the prosecution history, in other words, with the written record of the patent." *Id.* (simplified). "In most situations, an analysis of the intrinsic evidence alone will resolve any ambiguity in a disputed claim term," and "[i]n such circumstances, it is improper to rely on extrinsic evidence." *Vitronics*, 90 F.3d at 1583 (citations omitted).

II. CLAIM CONSTRUCTION

The Court construes the seventeen disputed claim terms below, guided by three key principles. First, the Federal Circuit "indulge[s] a heavy presumption that a claim term carries its ordinary and customary meaning." *Starhome GmbH v. AT&T Mobility LLC*, 743 F.3d 849, 857 (Fed. Cir. 2014) (simplified). Second, "[c]ourts often resolve claim construction disputes by rejecting a narrow construction and holding that the disputed term should retain its plain and ordinary meaning." *Uni-Sys., LLC v. U.S. Tennis Ass'n Nat'l Tennis Ctr. Inc.*, No. 17-cv-00147, 2020 WL 3960841, at *3 (E.D.N.Y. July 13, 2020) (citing *ActiveVideo Networks, Inc. v. Verizon Commc'ns, Inc.*, 694 F.3d 1312, 1326 (Fed. Cir. 2012)). Third, it is well settled that "a district court commits no error and properly resolves disputes between parties by giving terms 'plain meanings that do not require additional construction' when one party's 'proposed construction erroneously reads limitations into the claims.'" *Memory Integrity, LLC v. Intel Corp.*, No. 3:15-cv-00262-SI, 2016 WL 1122718, at *14 (D. Or. Mar. 22, 2016) (quoting *ActiveVideo*, 694 F.3d at 1326)).

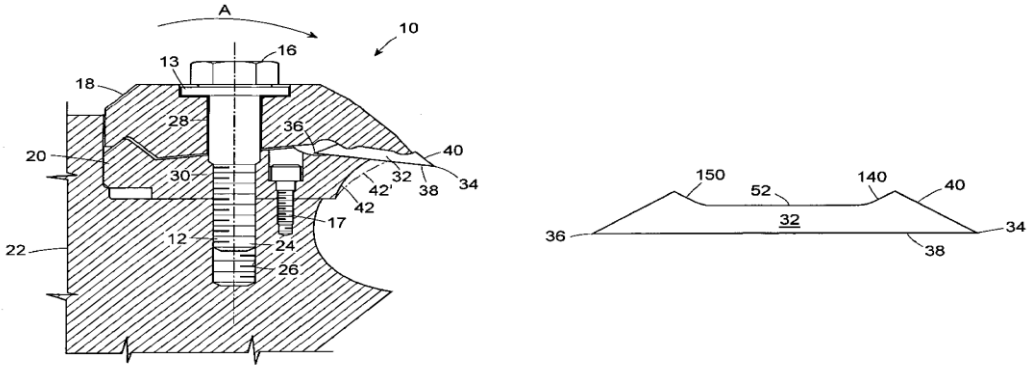
A. The '626, '674, and '609 Patents

1. "localized" or "localization"

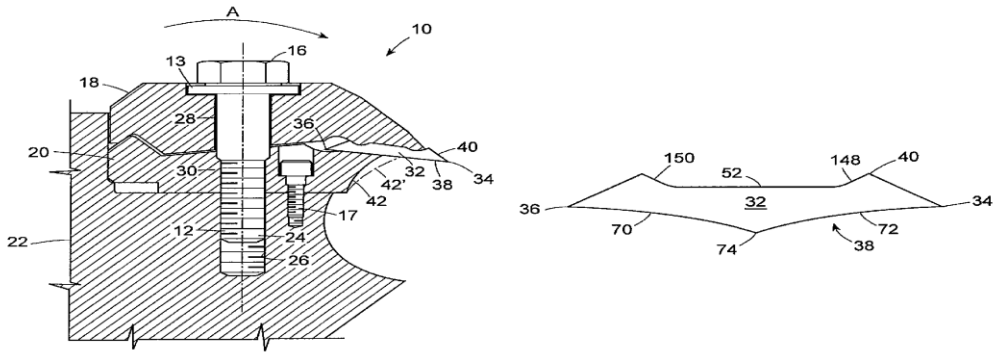
The parties dispute the construction of "localize[d]" or "localization" as used in the '626 and '609 patents. Relying on the specification and prosecution history and citing dictionary definitions, Andritz asserts that the Court should construe the terms "localize[d]" or

"localization" to mean "concentrate[d] towards." (ECF No. 47 at 21-22.) Relying largely on the same authorities, Cortex responds that the Court should construe the terms "localize[d]" or "localization" to mean "restrict[ed] to a definite place or locality" or "restriction to a definite place or locality." (ECF No. 50 at 7-10.)

The '626 and '609 patents describe multi-application wood working knives and clamping assemblies that are designed for use in wood working machines.[4] (ECF Nos. 47-1 at 2, 47-3 at 2.) The '626 and '609 patents include these images of knives and clamping assemblies described therein:



(ECF No. 47-1 at 2, the '626 patent).



(ECF No. 47-3 at 2, the '609 patent).

[4] The '609 patent is a continuation of the '626 patent. (ECF No. 47-3 at 2.)

The terms "localize[d]" or "localization" appear several times in the '626 and '609 patent specifications.[5] (*See* ECF No. 46 at 8, 20, setting forth the parties' joint claim construction and prehearing statement, which includes a chart detailing which claims use the disputed terms). For example, as Andritz notes, the '626 and '609 patent specifications describe where the clamping force should be located: "[P]referably, the majority of the clamping force will be localized toward the edges 34, 36 and away from the middle section 52." (ECF Nos. 47-1 at 12, 47-3 at 12.)

As Cortex points out, the specifications imply that certain amounts of the clamping force are applied to specific portions of the knife. For example, the '626 patent specification provides that "the majority of a clamping force exerted by the first clamping component is localized on the clamping features," and "a majority of a clamping force exerted on the knife is localized on the clamping features." (ECF No. 47-1 at 14, 16, 18.) The '626 patent specification also provides that "substantially all of a clamping force exerted by the first clamping component is localized on the clamping features." (*Id.*) Further, the '626 patent specification provides that "[m]ore preferably, at least 80 percent of the clamping force will be localized toward the edges 34, 36 and away from the middle section 52." (ECF No. 47-1 at 12.)

The '626 patent specification also addresses the most effective placement of the clamping forces:

> [C]lamping forces which are localized toward the edges 34, 36 and away from the middle section 52 are better able, because of their spaced apart positions, to resist a twisting torque on the knife 32. . . . Consequently, clamping forces, which are localized towards the extreme outer cutting edges, will most effectively counteract the twisting torque on the knife 32.

[5] "A specification includes both the written description and the claims of the patent." *Endo Pharm.*, 922 F.3d at 1370 n.4 (quoting *Monsanto Tech. LLC v. E.I. DuPont de Nemours & Co.*, 878 F.3d 1336, 1341 (Fed. Cir. 2018)).

(ECF No. 47-1 at 12; *see also* ECF No. 47-3 at 12, employing the same language as to effective placement). The '609 patent specification also addresses the impact wood has on the cutting edge: "Sometimes, the wood will exert a greater force against one localized area of the cutting edge than against the remainder of the blade . . . [because of] a knot or some other irregularity[.]" (ECF No. 47-3 at 9.)

In Cortex's view, the patent specification requirements discussed above "can only be evaluated by a fact finder in an infringement or validity analysis if 'localize' is construed to restrict the specified fraction of force to a definite place on the knife as Cortex proposes." (ECF No. 50 at 8.) Andritz, on the other hand, maintains that its "proposed construction—'concentrated towards'—is consistent with the specification's use of the term 'localize,' and uses terminology that Andritz believes will be slightly more understandable to the jury." (ECF No. 47 at 22.)

Based on the patent specifications described above, the Court concludes that the terms "localize[d]" or "localization" should be construed to mean "concentrated toward a definite place or locality." *See generally Vitronics*, 90 F.3d at 1582 (explaining that the patent specification is "[u]sually . . . dispositive" and "the single best guide to the meaning of a disputed term"). The patent specifications reflect that the majority of the clamping forces should be concentrated not only toward the extreme outer cutting edges but away from the middle section of the clamped knife, because such a spaced apart design is better able to counteract any twisting torque on the knife. (*See* ECF No. 47-1 at 14, "[The] middle section [has] a central smooth surface area extending between the clamping features whereby upon insertion of the knife body into the clamping assembly the localization of the clamping forces on the first clamping surface occurs only at [the] two opposed clamping features and [the] clamping forces are localized and located

away from [the] middle section."; ECF No. 47-1 at 12, "More preferably, at least 80 percent of the clamping force will be localized toward the edges 34, 36 and away from the middle section 52."). These specifications tie "localized" to a definite place and are more consistent with "concentrated toward" than "restricted to." The dictionary definition cited by Andritz also supports the Court's construction. (*See* ECF No. 47 at 22, citing, *inter alia*, ECF No. 47-8 at 8, which defines "localize" to mean "to . . . concentrate in one locality").

Based on the foregoing analysis, the Court construes the terms "localize[d]" or "localization," as used in the '626 and '609 patents, to mean "concentrated toward a definite place or locality."

2. "clamping force[s]" or "force exerted (on or by) the rear clamping component"

The parties dispute the construction of "clamping force[s]" or "force exerted (on or by) the rear clamping component" as used in the '626 and '674 patents. Andritz asserts that the Court should give "clamping force[s]" or "force exerted (on or by) the rear clamping component" their "'plain and ordinary meaning,' with no additional construction required." (ECF No. 47 at 22.) Relying largely on extrinsic evidence, Cortex argues that the Court should construe "clamping force[s]" or "force exerted (on or by) the rear clamping component" to mean "compressive forces when the knife is clamped with a force of at least 3000 pounds per linear inch." (ECF No. 50 at 10-13.) At the hearing, Cortex proposed an alternative construction that does not rely on a specific amount of force: "compressive forces when the knife is clamped in a safely usable condition." (5/28/21 Tr. at 30:13-14.)

The term "clamping force[]" appears in more than sixty claims in the '626 and '674 patents.[6] (*See* ECF No. 46 at 9, 15.) For example, as Cortex notes, the '626 patent specification

[6] The '674 patent is a continuation of the '626 patent. (ECF No. 47-2 at 2.)

addresses a knife body inserted into a clamping assembly and the clamping forces applied thereto:

> [W]hen the knife body is inserted into a clamping assembly, the locating and clamping forces applied to said clamping features on the first clamping surface position the knife in the clamping assembly so the locating forces balance substantially to zero and the clamping forces are localized towards the cutting edge and the opposite side, and away from the middle section.

(ECF No. 47-1 at 15.)

Cortex asserts that given this language, a POSITA "wishing to understand the scope of the claims reciting 'clamping forces' would need to assume some reasonably well-defined amount of compressive force being applied to the knife by the clamp." (ECF No. 50 at 11.) Cortex adds that a POSITA would understand that "'clamping forces' refer to the forces on the knife when the knife is clamped in a safely usable condition[.]" (ECF No. 50 at 12.) Relying on declarations from two fact witnesses (Cortex's president and a Cortex engineer), Cortex asserts that it has provided evidence that a POSITA "would believe that clamping one of the claimed knives in a safely usable condition requires at least 3000 pounds per linear inch of clamping force." (ECF No. 50 at 12, citing ECF Nos. 50-4, 50-5.)

The Court agrees with Andritz that "clamping force[s]" or "force exerted (on or by) the rear clamping component" should be given their plain and ordinary meaning. *See Memory Integrity*, 2016 WL 1122718, at *2 ("[C]ommonplace terms or those that a juror can easily use without further direction from the court 'do not need to be construed because they are neither unfamiliar to the jury, confusing to the jury, nor affected by the specification or prosecution history.'") (citation omitted); *see also Vitronics*, 90 F.3d at 1583 (explaining that in "most situations," it is "improper" to rely on extrinsic evidence because the intrinsic evidence will resolve any ambiguity). Notably, Cortex acknowledges that the '626 and '674 patent specifications do not include a numerical value as to the amount of force necessary to secure the

knife, and the Court finds that importing a value would be improper. *See Memory Integrity*, 2016 WL 1122718, at *2 (stating that the court was "unwilling to expressly import [a] limitation into the claims when the claims do not include the limitation" (citing *Specialty Composites v. Cabot Corp.*, 845 F.2d 981, 987 (Fed. Cir. 1988))); *Specialty Composites*, 845 F.2d at 987 ("Though polyvinylchloride entails a very high concentration of external plasticizer added to preformed polymer, the specification does not require a numerically high concentration of external plasticizer, but only a 'sufficiently high concentration of organic plasticizer' to achieve specified results."); *Conoco, Inc. v. Energy & Envtl. Int'l, L.L.C.*, 460 F.3d 1349, 1358 (Fed. Cir. 2006) ("[W]hen a claim term is expressed in general descriptive words, we will not ordinarily limit the term to a numerical range that may appear in the written description or in other claims.") (simplified). Further, the Court agrees with Andritz that adding the phrase "safely usable condition" to the term "would likely create more ambiguity, not less." *MasterObjects, Inc. v. Google, Inc.*, No. 11-cv-1054, 2013 WL 2319087, at *4 (N.D. Cal. May 28, 2013).

Based on the foregoing analysis, the Court concludes that "clamping force[s]" or "force exerted (on or by) the rear clamping component" should be given their plain and ordinary meaning. *See Starhome*, 743 F.3d at 857 ("We indulge a heavy presumption that a claim term carries its ordinary and customary meaning.") (simplified); *see also Boydstun*, 2017 WL 4682301, at *9 (noting that terms like "single piece" and "coupled," which are "readily understandable" and sufficiently clear to make resort to the dictionary unnecessary, can be given their common-sense meaning without further construction); *Wis. Alumni Rsch. Found. v. Apple Inc.*, 905 F.3d 1341, 1348 (Fed. Cir. 2018) ("Giving a term its plain and ordinary meaning does not leave the term devoid of any meaning whatsoever. Instead, 'the ordinary meaning of a claim

term is its meaning to the ordinary artisan after reading the entire patent.'" (quoting *Phillips*, 415 F.3d at 1321)).

3. "the locating forces balance substantially to zero"

The parties dispute the construction of "the locating forces balance substantially to zero" as used in the '626 patent. Andritz asserts that the Court should give the term "its plain and ordinary meaning." (ECF No. 47 at 24.) Relying on the '626 patent specification, Cortex responds that the Court should construe "the locating forces balance substantially to zero" to mean "the lateral forces (perpendicular to the compressive clamping forces) balance so that the knife stops moving laterally." (ECF No. 50 at 13.)

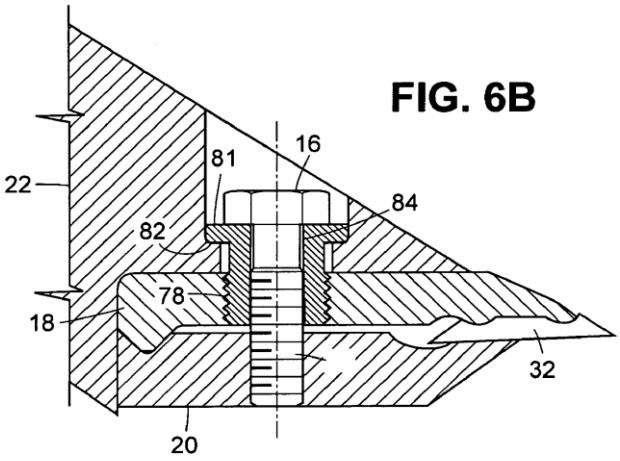
The '626 patent specification describes how the clamping features position the knife in the clamping assembly and balance the "locating forces" substantially to zero: "[W]hen the knife body is inserted into a clamping assembly, the locating and clamping forces applied to said clamping features on the first clamping surface position the knife in the clamping assembly so the locating forces balance substantially to zero[.]" (ECF No. 47-1 at 15.) The term "locating force" also appears elsewhere in the '626 patent specification. For example, the '626 patent specification states that "the first clamping component is sized and shaped to exert a locating force on [the] clamping features of the knife such that the knife is directed to a predetermined position when the knife is clamped in the clamping assembly." (*Id.*) The '626 patent specification also discusses how the "locating force" helps place the knife into its correct position:

> [W]hen the clamping features 48, 50 have the preferred concave hollow shape, should the knife position be slightly displaced or askew as it is clamped, the rear clamping surface 18 will engage and exert a locating force on the sides of the concave hollows and push the knife 32 to the proper and preferred seating position. Once the knife 32 is in the correct position, *the lateral or sideways*

> *forces* against the clamping features balance substantially to zero, and the knife is position.

(ECF No. 47-1 at 13) (emphasis added).

Cortex argues that the emphasized language above explicitly equates "locating force" with "lateral or sideways forces," which supports Cortex's proposed construction. Andritz responds that the "specification is clear that the only requirement of the locating forces is that they be applied to the clamping features to push the knife into the proper position," and that contrary to Cortex's argument, the engagement example described above reflects that the "locating forces" are "a combination of vertical and lateral forces." (ECF No. 51 at 20, citing FIG. 6B). Figure 6B, which is shown below, depicts "an alternative clamping arrangement" where "the rear clamping component 18 . . . is fixedly attachable to the base 22" and the "front clamping component 20 is movable between an open position and clamped position" (ECF No. 47-1 at 13):



(ECF No. 47-1 at 5.)

In the Court's view, the '626 patent specification suggests that clamping arrangements, such as Figure 6B, employ a combination of both vertical and lateral forces to correctly position the knife:

> "[T]he knife 32 will also be directed to the predetermined position by engaging the clamping features . . . having the alternative diagonal shape . . . . Essentially, what is required, is to have two opposed inclined edges (whether curved or straight) which cause the knife to self center, or self locate, preferably relative to the rear clamping component 18, as the clamping assembly . . . is clamped onto the knife 32.

(ECF No. 47-1 at 13.) Given this language and the language described above, the Court disagrees with Cortex to the extent it suggests that the '626 patent equates "locating force" with "lateral or sideways forces," and Cortex has not identified any compelling reason to redefine "balance substantially to zero" with "stops moving laterally."

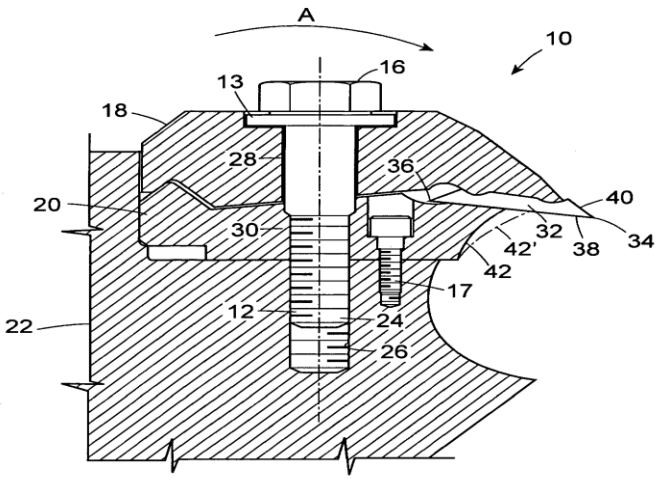
Based on the above analysis, the Court concludes that the term "the locating forces balance substantially to zero" should be given its plain and ordinary meaning.

4. "non load bearing"

The parties dispute the construction of "non load bearing" as used in the '626, '674, and '609 patents. Andritz asserts that "non load bearing" should be given its "[p]lain and ordinary meaning." (ECF No. 47 at 25.) Relying on the '626 patent specification, prosecution history, and extrinsic evidence, Cortex argues that "non load bearing" should be construed to mean "not experiencing any force when the knife is clamped with a force of at least 3000 pounds per linear inch" (ECF No. 50 at 14), or alternatively to mean "not experiencing any force [or compressive force] when the knife is clamped in a safely usable condition." (5/28/21 Tr. at 42:11-17.)

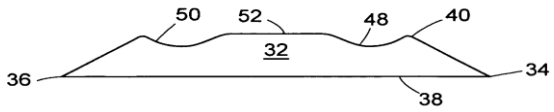
The '626 patent specification repeatedly describes "the first clamping surface [as] having opposed clamping features separated by a central smooth uninterrupted non load bearing middle section[.]" (ECF No. 47-1 at 16, 18-19.) For example, in Figure 1, which is shown below, "[t]he knife 32 has a first clamping surface which . . . is a rear clamping surface 40" (ECF No. 47-1 at 10-11):

FIG. 1



(ECF No. 47-1 at 4.) The '626 patent description reflects that "to facilitate regrinding using traditional knife grinding equipment, it is preferable that a substantially flat middle section 52," as depicted below, "be provided on the rear clamping surface 40 of the knife" (ECF No. 47-1 at 12):

FIG. 2



(ECF No. 47-1 at 4.) The '626 patent prosecution history also reflects that the applicant distinguished a "Bradstreet" knife based on the spacing of the clamping features:

> [The Bradstreet art] reference discloses a clamping structure in which the knife element includes a bearing surface having multiple indented serrations along its full extent. As a result, all of the clamping forces applied by the clamp element to the knife extend along the entire surface against these serrations. As described in the application as filed herein, the present invention relates to the provision of widely spaced apart clamping features on the knife which bear the clamping forces close to the knife edges to securely hold the knife in place against forces applied to the knife in varying directions when in use. Claim 5 distinguishes over the Bradstreet [art] reference by reciting the spaced apart configuration of the clamping features[.]

(ECF No. 47-7 at 2) (simplified).

Based on the '626 patent specification and prosecution history, Cortex argues that the plain and ordinary meaning of "non load bearing" is "clearly 'not experiencing any force,'" and that the prosecution history "makes it clear that a 'bearing surface,' which a POSITA would understand to be the same as a 'load bearing surface,' experiences clamping forces, and implies that the claimed 'non load bearing surface' does *not* experience such forces." (ECF No. 50 at 15.)

The Court is not persuaded by Cortex's proposed construction. The '626 patent specification suggests that the "central smooth uninterrupted non load bearing middle section" is part of the "clamping surface" that comes into contact with the clamping assembly, which would exert at least some amount of force on that surface. During the hearing, Cortex's counsel acknowledged that making contact is tantamount to exerting a force. Cortex's proposed construction of the term to mean "not experiencing any force" contradicts the specification and excludes disclosed embodiments. *See Accent Packaging, Inc. v. Leggett & Platt, Inc.*, 707 F.3d 1318, 1326 (Fed. Cir. 2013) ("[A] claim interpretation that excludes a preferred embodiment from the scope of the claim is rarely, if ever, correct." (quoting *On-Line Techs., Inc. v. Bodenseewerk Perkin-Elmer GmbH*, 386 F.3d 1133, 1138 (Fed. Cir. 2004)); *see also Vitronics*, 90 F.3d at 1580 (noting that the patent specification describes the preferred embodiments).

Also noteworthy is that although the prosecution history distinguished the Bradstreet knife based on how it distributed the clamping forces (i.e., the Bradstreet knife used indented serrations evenly to distribute the clamping forces along the full extent of the surface, whereas Andritz's invention used a widely spaced apart configuration to distribute most of the forces close to the edges), the history does not reflect that the claimed knife experiences no force over the middle section.

Based on the foregoing analysis, the Court concludes that no construction of the term "non load bearing" is necessary, and therefore construes that term as having its plain and ordinary meaning. *See 3rd Eye Surveillance, LLC v. United States*, 140 Fed. Cl. 39, 64 (Fed. Cl. 2018) (holding that no construction of "secured location" was necessary and that the "plain meaning" of that term was "preferred," and emphasizing that the "the Federal Circuit 'indulge[s] a 'heavy presumption' that a claim term carries its ordinary and customary meaning'") (citation omitted); *Memory Integrity*, 2016 WL 1122718, at *14 (construing the term "the cache access request" as "having the plain and ordinary meaning given to it by the claims" in the specification, stating that a jury could understand the scope of the term based, in part, on "the text of the claims," and noting that "a district court commits no error and properly resolves disputes between parties by giving terms 'plain meanings that do not require additional construction' when one party's 'proposed construction erroneously reads limitations into the claims'" (citing *ActiveVideo*, 694 F.3d at 1326)).

5. "smooth" or "smooth uninterrupted"

The fifth dispute concerns the construction of "smooth" or "smooth uninterrupted" as used in the '626 patent. Andritz asserts that because the meaning of these terms would be "readily apparent" to a POSITA and lay persons, they "should be construed as having their 'plain and ordinary meaning,' with no additional construction required." (ECF No. 47 at 27.) Cortex responds that "smooth" and "smooth uninterrupted" are "subject to a variety of possible interpretations," including "low friction," "not rough to human touch," and "perfectly flat and regular under a microscope." (ECF No. 50 at 17.) Cortex thus argues that the Court must construe the terms, so that a fact finder does not need to "guess[] at the correct claim construction." (ECF No. 50 at 17.)

The terms "smooth" or "smooth uninterrupted" are used throughout the '626 patent specification. For example, the '626 patent specification refers to: (1) a clamping surface with opposed clamping features that are separated by a "smooth uninterrupted middle section," (2) a clamping surface with a middle section that has a "central smooth surface area extending between the clamping features," and (3) a knife body with "a central smooth surface area extending between the clamping features." (ECF No. 47-1 at 14-19.) The parties appear to agree that the '626 patent prosecution history does not demonstrate that the patent applicant discussed the meaning of "smooth" or "smooth uninterrupted." (*See* ECF No. 50 at 19.)

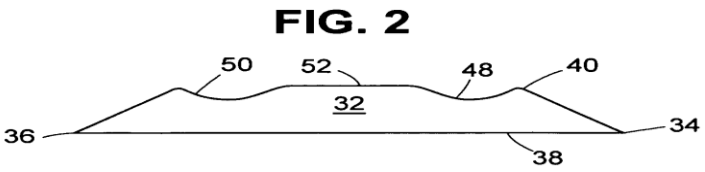
The '626 patent specification makes clear that the invention's clamping assembly and knife body have corresponding "smooth uninterrupted" or "smooth" middle sections. In the Court's view, the '626 patent specification uses the terms "smooth uninterrupted" or "smooth" in ways that are so readily understandable that they need not be subject to further construction. Accordingly, the Court construes "smooth" or "smooth uninterrupted" as having their plain and ordinary meaning. *See W.E. Hall Co., Inc. v. Atlanta Corrugating, LLC*, 370 F.3d 1343, 1350 (Fed. Cir. 2004) (affirming the district court's reliance on the plain and ordinary meaning where the disputed terms "open channels" and "single piece construction" were "straightforward" and "resort to the dictionary [was] unnecessary"); *Memory Integrity*, 2016 WL 1122718, at *14 (explaining that no further construction is necessary if a jury could understand the scope of the term from the text of the claims); *cf. Securus, Inc. v. Inflow Prods., Inc.*, No. 07-cv-0540, 2008 WL 4952070, at *4 (S.D. Cal. July 22, 2008) ("[T]he Court finds that one of ordinary skill in the art would construe the term 'smooth flow surface' according to its plain and ordinary meaning.").

///

6. "concave hollow[s]"

The sixth dispute concerns the construction of the term "concave hollow[s]" as used in the '626, '674, and '609 patents. Andritz asserts that "concave hollow[s]" should be construed to have its plain and ordinary meaning, but adds that the meaning should be an "indentation that curves inward" so as to avoid any confusion or conflation with the term convex, which also appeared in the patents. (ECF No. 47 at 28.) Relying on, among other things, a patent drawing (Figure 2) and dictionary definitions, Cortex responds that "concave hollow[s]" should be construed to mean "indentations which are rounded inward like the inside of a bowl." (ECF No. 50 at 19.)

The term "concave hollow[s]" appears multiple times in the '626, '674, and '609 patent specifications. For example, the '626, '674, and '609 patent specifications provide that "[i]n the preferred embodiment, the clamping features 48, 50 are concave hollows, or indentations, in the rear clamping surface 40," and that "the use of concave hollows has the advantage that the shape of the hollows results in the clamping force being applied in a direction that is substantially downward against the knife," which "helps ensure that when the rear clamping component 18 registers with, and exerts a clamping force on, opposed clamping features 48, 50, there is no tendency for the clamping features to be wedged apart." (ECF No. 47-1 at 12-13; ECF No. 47-2 at 12; ECF No. 47-3 at 12.) The '626, '674, and '609 patent specifications include this patent drawing:



(*See, e.g.*, ECF No. 47-1 at 4.)

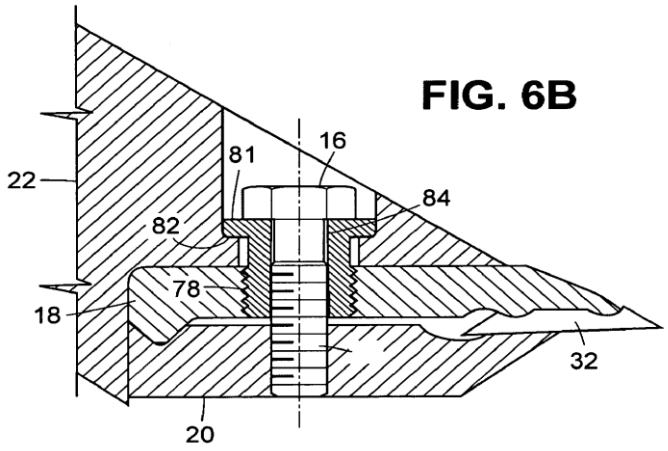
The Court finds that Cortex's proposed construction is too narrow. Cortex's inclusion of the language "like the inside of a bowl" is not necessarily consistent with the "concave hollows, or indentations," depicted above, and it is inconsistent with the specifications and prosecution histories, neither of which refer to "bowl"-shaped clamping features. The Court agrees with Andritz that Cortex's proposed construction suggests that the concave hollows may have steeper sides than they actually do. The Court recognizes that Cortex cites a dictionary that defines "concave" as "hollowed or rounded inward like the inside of a bowl," but it also defines "concave" as "having a shape that is thought of as curving inward—opposed to *convex*." (ECF No. 50-3 at 5.) The latter definition is the most consistent with the drawings and language in the specifications. Thus, Andritz's proposed construction of "concave hollow[s]"—an "indentation that curves inward"—stays true to the claim language and patent drawings, and most naturally aligns with the patents' description of the invention. Accordingly, the Court construes "concave hollow[s]" as an "indentation that curves inward." *See Phillips*, 415 F.3d at 1315 (explaining that "[t]he construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction").

7. "convex projection"

The seventh dispute concerns the term "convex projection" as used in the '626 patent. Andritz argues that "convex projection" should be construed to mean a "projection that curves outward." (ECF No. 47 at 28.) Citing the '626 patent specification, Cortex responds that "convex projection" should be construed to mean "outwardly curved projections which fit within concave hollows." (ECF No. 50 at 21.)

Three claims in the '626 patent specification reference "clamping features being convex projections." (ECF No. 47-1 at 16.) The '626 patent specification also includes drawings of the

"convex projections" and corresponding "concave hollows" on the knife body (e.g., 32), such as Figure 6B:

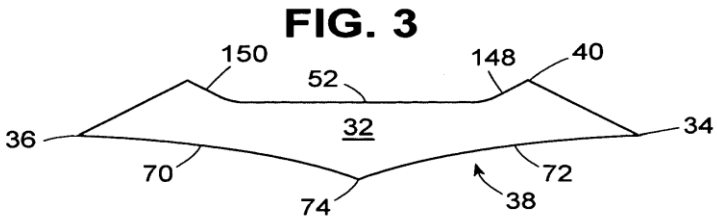


(*E.g.*, ECF No. 47-1 at 5.)

Cortex argues that it is apparent that the clamping assembly's "clamping features" are "always shaped in a complementary manner" and thus "a POSITA would interpret 'convex projections' to mean 'outwardly curved projections which fit within concave hollows.'" (ECF No. 50 at 21.) Andritz acknowledges that the '626 patent specification includes "one example" reflecting that "the convex projections engage with concave hollows." (ECF No. 47 at 29, citing ECF No. 47-1 at 12, "The fixture . . . comprises a supporting portion . . . which is preferably sized and shaped to register with the clamping features . . . of the knife"). Andritz, however, notes that the 'specification also refers to "embodiments where the knife has inclined clamping features, rather than concave hollows." (ECF No. 47 at 29, citing Figures 3-4 & ECF No. 47-1 at 13, emphasizing that "the clamping features need not be the concave hollows of the preferred embodiment").

The '626 patent specification demonstrates that the "clamping features" referenced therein include "inclined" clamping features (e.g., 148 and 150) that secure the knife body and

"need not be . . . concave hollows," as depicted in "alternative embodiments shown" in Figure 3 below:



(ECF No. 47-1 at 4, 13.) Per the specification, "convex projections" do not always engage with "concave hollows," and Cortex's proposed construction would improperly restrict the claim to one disclosed embodiment to the exclusion of others. Accordingly, the Court construes "convex projection" to mean a "projection that curves outward." *See Rotex Global, LLC v. Gerald Daniel Worldwide, Inc.*, No. 1:17-cv-2118, 2019 WL 1515150, at *5 (M.D. Pa. Apr. 8, 2019) (finding the defendant's proposed construction unpersuasive, in part because it "would exclude alternative embodiments" referenced in the preferred embodiments and related figures, and noting that an "interpretation that excludes a preferred embodiment from the scope of the claim is rarely, if ever, correct") (simplified).

8. "directed toward," "sized and shaped to direct clamping forces . . . away from said [] middle section," "to direct the clamping force"

The eighth dispute concerns the construction of the terms "directed toward," "sized and shaped to direct clamping forces . . . away from said [] middle section," and "to direct the clamping force," as used in the '674 and '609 patents. Andritz asserts that these "Directing Terms" should be given their plain and ordinary meaning. (ECF No. 47 at 30.) Relying on the patent specifications, Cortex responds that (1) "directed toward" should be construed to mean "applied at," (2) "sized and shaped to direct clamping forces . . . away from said [] middle section" should be construed to mean "clamping forces are applied only to portions of the knife

other than the middle section of the knife," and (3) "to direct the clamping force" should be construed to mean "to cause the clamping force to be applied to a particular location." (ECF No. 50 at 22.)

As Cortex points out, one of the claims in the '674 patent specification states that "all of the clamping forces are directed toward said first, cutting edge and said second edge." (ECF No. 47-2 at 15.) Cortex argues that construction is necessary because "a fact finder would not know, for example, whether forces 'directed' to particular locations must be applied at those locations (as Cortex contends), or if 'directed' instead relates to the orientation of a force (i.e., the direction the force points), which would lead to a different finding of claim validity or infringement." (ECF No. 50 at 22.)

Further, the '674 and '609 patent specifications refer to wood chipping applications that involve "significant cutting forces directed towards the underside of the knife," and "incidental loads directed to the top of the blade." (ECF No. 47-2 at 9, 11; ECF No. 47-3 at 11.) Given this language Cortex argues that "directed towards" and "directed to" are "clearly synonymous with 'applied at.'" (ECF No. 50 at 23.) Cortex also argues that a POSITA would infer that "direct the clamping force" means "to place (i.e., apply) the clamping forces in a particular location," noting that the '674 patent specification discusses how "'locating features are sized and shaped to direct the knife 32 to a predetermined position.'" (ECF No. 50 at 23, citing ECF No. 47-3 at 13.)

The Court finds Cortex's arguments unpersuasive. As an initial matter, Cortex's proposed construction of the "Directing Terms" improperly imports a limitation in the claims. Specifically, Cortex argues that "sized and shaped to direct clamping forces . . . away from said [] middle section" should be construed to mean "clamping forces are applied *only* to portions of the knife other than the middle section of the knife," even though the specification refers only to the fact

that the "majority" or "at least 80 percent," but not necessarily 100 percent, of the clamping forces should be localized away from the middle section of the knife.

The Court further concludes that the disputed terms, in particular "directed" and "directed toward," are readily understandable given the context in which they are used, and therefore can be given their common sense meaning without further construction.

For these reasons, the Court construes "directed toward," "sized and shaped to direct clamping forces . . . away from said [] middle section," and "to direct the clamping force" as having their plain and ordinary meaning.

9. {"register with," "engages with," or "engaging"} "only at said [opposed] clamping features"

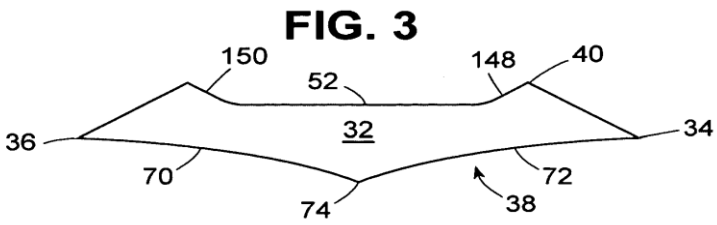
During the hearing, the parties agreed that the Court should construe{"register with," "engages with," or "engaging"} "only at said [opposed] clamping features" to mean "making contact only upon the opposed clamping forces." The Court agrees and adopts that construction.

10. "concave surface"

The tenth dispute concerns the term "concave surface" as used in the '674 and '609 patents. Andritz asserts that "concave surface" should be construed to mean a "surface that curves inward." (ECF No. 47 at 32.) Cortex, on the other hand, argues that "concave surface" should be construed to mean "an inwardly rounded surface with no abrupt changes in direction." (ECF No. 50 at 25.)

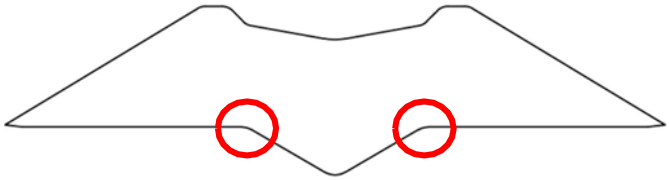
Consistent with its constructions of "concave hollows" and "convex projections," the Court concludes that "concave surface" should be construed to mean a "surface that curves inward" because it most naturally aligns with the patents' descriptions and drawings of the invention. For example, the '674 and '609 patents include claims that recite that the "front clamping surface comprises two concave surfaces meeting at [a] ridge." (ECF No. 47-2 at 17, 21;

ECF No. 47-3 at 16.) The front clamping surface that comprises two "concave surfaces" (e.g., 70, 72) is depicted in Figure 3 below (*see, e.g.*, ECF No. 47-2 at 12, "In FIG. 3, the front clamping surface 38 comprises two gently concave surfaces 70, 72 meeting at a central line 74"):



(ECF No. 47-2 at 4.)

Cortex argues that a POSITA who reviewed Figure 3 "would immediately see that the 'concave surfaces 70, 72' are 'inwardly rounded surfaces with no abrupt changes in direction,' exactly as Cortex proposes[.]" (ECF No. 50 at 25.) Cortex also notes that Andritz's proposed construction would allow it "to argue to a fact finder that the [circled] portions of the accused Cortex knife shown below are 'concave surfaces,'" even though Cortex believes that "it is impossible to manufacture any physical structure with a perfectly sharp change in direction along a surface":



(ECF No. 50 at 26.)

The Court finds that Cortex's proposed inclusion of the language "with no abrupt changes in direction" lacks support from the intrinsic and extrinsic evidence, and the inclusion of the word "abrupt" would likely create more ambiguity regarding what constitutes a sufficiently "abrupt" change in direction. *See MasterObjects*, 2013 WL 2319087, at *4 (declining to include

the word "persistent" in the construction of the disputed patent claim term because it "would likely create more ambiguity, not less").[7] Thus, the Court construes "concave surface" to mean a "surface that curves inward."

B. The '958 Patent

1. "is exposed to [wood] chip flow during use"

The parties originally disputed whether the term "is exposed to [wood] chip flow during use" should be given its plain and ordinary meaning. (*See* ECF No. 47 at 33, reflecting that Andritz disputed Cortex's proposed construction of "is exposed to [wood] chip flow during use" and argued that the term should be given its plain and ordinary meaning.) Cortex now acknowledges that this term should be given its plain and ordinary meaning. (ECF No. 50 at 27.) Accordingly, the Court construes "is exposed to [wood] chip flow during use" as having its plain and ordinary meaning.

2. "to provide a chip guiding function during use"

The next dispute concerns the term "to provide a chip guiding function during use." Andritz asserts that "to provide a chip guiding function during use" should be given its plain and ordinary meaning (ECF No. 47 at 33), whereas Cortex argues that the term should be construed to mean "to guide wood chips along a surface without any abrupt changes in direction." (ECF No. 50 at 28.)

The '958 patent specification references an example embodiment of the invention where there is an absence of abrupt angular changes on the chip guiding surface (e.g., 14, as shown in

[7] Cortex's reliance on its accused knife is also inconsistent with the first step of the patent infringement analysis. *See SRI Int'l v. Matsushita Elec. Corp. of Am.*, 775 F.2d 1107, 1118 (Fed. Cir. 1985) ("A claim is construed in the light of the claim language, the other claims, the prior art, the prosecution history, and the specification, *not* in light of the accused device.").

Figure 5), but it also states that the invention is not limited to such a description of the chip guiding surface:

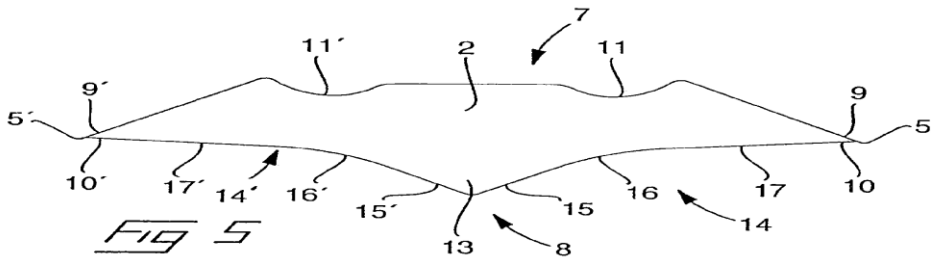


FIG 5

. . . .

> In an example embodiment of the invention, a cross-section of the chip guiding surface 14, 14' (as showing in FIG. 5) is continuously either planar or concave. That is, this surface includes neither discontinuities nor convex surfaces. Moreover, in this embodiment, the second contact surface 17, 17' is continuous with the inner edge forming surface 10, 10', such that there is no distinguishable boundary between the two surfaces. Thus, the chip guiding surface 14, 14' continuously extends from the inner edge forming surface 10, 10' to the crest of the deflector ridge 13 without any intermediate discontinuities or convex surfaces. Such a continuous surface can result in higher quality chips because, in the absence of abrupt angular changes, chips may be less likely to break or deform while guided away from the cutting edge.
>
> The inner side of the chipper knife according to the present invention is not limited to the foregoing description. For example, the chip guiding surface need not be continuous with the edge forming surface. Rather, the edge forming surface may be raised above the chip guiding surface, leading to a discontinuity between the two . . . . In this case, the chip guiding surface may begin at some distance from the cutting edge. As another example, the radius or curvature of the deflector ridge, i.e., the curvature on either side of the crest of the deflector ridge, can vary from that illustrated in FIG. 5. . . .

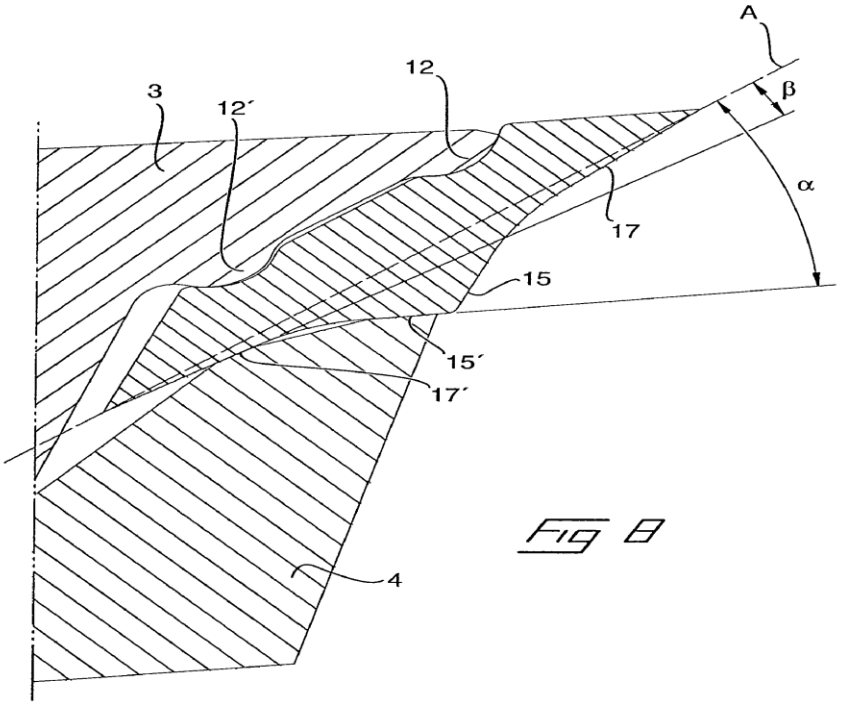
(ECF No. 47-4 at 6, 10.)

Consistent with this description, some of the '958 patent specification's claims refer to a chip guiding surface without "abrupt angular changes," while others do not mention the absence of "angular changes." (*See* ECF No. 47-4 at 12-13, "[T]he concave surface portion is exposed to wood chip flow during use to provide a chip guiding function during use."; ECF No. 47-4 at 13, "[T]he concave surface portion is exposed to chip flow during use and chips cut by the first

cutting edge are guided along the chip guiding surface without any abrupt changes in direction during guiding.").

Cortex's proposed construction of "to provide a chip guiding function during use" is "to guide wood chips along a surface without any abrupt changes in direction," and Cortex argues that the applicant "disclaim[ed] any other claim scope" during prosecution. (ECF No. 50 at 28, citing ECF No. 50-2 at 2.) The Court disagrees.

The prosecution history reflects that the applicant stated that "the claims of the present application are directed to the embodiment of the invention shown in Figure 8" (ECF No. 50-2 at 2) below:



(ECF No. 47-4 at 7.)

Notably, however, the prosecution history does not reflect that the applicant clearly and unambiguously disavowed any chip guiding surfaces with abrupt angular changes by stating that the claims are "directed" to the embodiment/example shown in Figure 8. *See Boydstun*, 2017 WL

4682301, at *8 (noting that a "[d]isavowal requires that the specification or prosecution history make clear that the invention does not include a particular feature," courts "decline[] to apply the doctrine of prosecution disclaimer where the alleged disavowal of claim scope is ambiguous," and the alleged infringer did "not identify anything in the prosecution history that unambiguously disavows any particular element or design") (simplified); *see also Cal. Inst. of Tech. v. Hughes Commc'ns Inc.*, 35 F. Supp. 3d 1176, 1184 (C.D. Cal. 2014) ("An embodiment is simply an example of an invention encompassed by the patent."). The '958 patent specification also suggests that the invention is not necessarily limited only to chip guiding surfaces without abrupt angular changes. Accordingly, the Court declines Cortex's invitation to apply the doctrine of prosecution disclaimer here, and instead construes "to provide a chip guiding function during use" as having its plain and ordinary meaning. *See Memory Integrity*, 2016 WL 1122718, at *14 (explaining that "a district court commits no error and properly resolves disputes between parties by giving terms 'plain meanings that do not require additional construction' when one party's 'proposed construction erroneously reads limitations into the claims" (quoting *ActiveVideo*, 694 F.3d at 1326)).

3. "has no distinguishable boundary with"

The parties dispute the construction of the term "has no distinguishable boundary with," a term used three times in the '958 patent. (*See* ECF No. 47-4 at 12-13, describing knives "wherein the first flat planar surface portion has no distinguishable boundary with the first inner edge forming surface," and "wherein the first planar surface has no distinguishable boundary with the first inner edge forming surface"). Cortex opposes Andritz's assertion that "has no distinguishable boundary with" should be given its plain and ordinary meaning, arguing that the term should be construed to mean "is coplanar with" (i.e., is on the same plane with). (ECF No. 50 at 29.) In support of its argument and by way of example, Cortex notes that a POSITA

looking at Figure 5 would see that "surfaces 10, 10' are . . . coplanar with surfaces 17, 17'" (ECF No. 50 at 30):

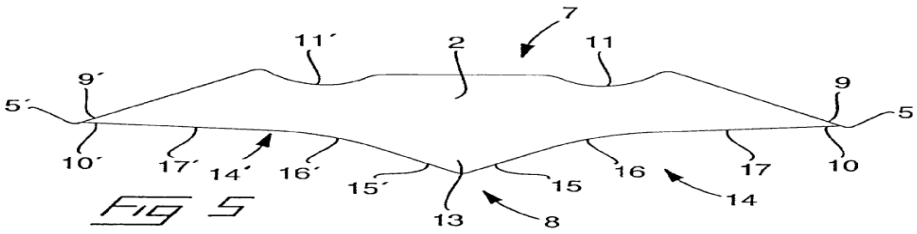


Fig 5

(ECF No. 47-4 at 6.)

Cortex's proposed construction improperly reads limitations into the claims. As discussed above, the '958 patent specification suggests that some embodiments involve coplanar surfaces, but it also makes clear that (1) the invention is "not limited to" the example embodiment described and shown in Figure 5, (2) the "chip guiding surface need not be continuous with the edge forming surface," and (3) the "edge forming surface may be raised above the chip guiding surface, leading to a discontinuity between the two." (ECF No. 47-4 at 10.) Furthermore, the term "coplanar" is never mentioned in the '958 patent specification. Accordingly, the Court construes "has no distinguishable boundary with" as having its plain and ordinary meaning.

4. "chips cut by the first cutting edge are guided along the chip guiding surface without any abrupt changes in direction during guiding"

The parties dispute the construction of the term "chips cut by the first cutting edge are guided along the chip guiding surface without any abrupt changes in direction during guiding," which appears in claim thirteen of the '958 patent. (*See* ECF No. 47-4 at 12-13, describing a knife "whereby the concave surface portion is exposed to chip flow during use and chips cut by the first cutting edge are guided along the chip guiding surface without any abrupt changes in direction during guiding"). Andritz asserts that the Court should give the term its plain and ordinary meaning (ECF No. 47 at 36), and Cortex argues that the Court should construe the term

to mean "the chip guiding surface does not include any abrupt angular changes." (ECF No. 50 at 31.)

Cortex asserts that its proposed construction is proper because (1) "wood chips will be 'guided along the chip guiding surface without any abrupt changes in direction' if and only if 'the chip guiding surface does not include any abrupt angular changes,'" and (2) the prosecution history reflects the applicant disavowed any chip guiding surfaces with abrupt angular changes. (ECF No. 50 at 31, arguing that the prosecution history is "dispositive"). Andritz argues that Cortex's construction "improperly narrows the meaning of the limitation by incorporating (and then modifying) language from an example embodiment disclosed in the '958 patent's specification," and that the prosecution history "does not include any clear and unambiguous statements disclaiming claim scope, and it certainly does not state that the chip guiding surface does not include any abrupt angular changes." (ECF No. 47 at 37.) Andritz also argues that "Cortex's construction conflates the structure of the chip guiding surface with the actual movement and direction of the chips, while the claim language does not suggest this conflation." (ECF No. 51 at 39.)

The Court finds Cortex's reliance on the prosecution history unpersuasive, for the reasons discussed above. Based on its reading of the patent specification and prosecution history, the Court concludes that the term "chips cut by the first cutting edge are guided along the chip guiding surface without any abrupt changes in direction during guiding," as used in claim thirteen, is readily understandable and should be given its common-sense meaning without further construction. The Court thus construes "chips cut by the first cutting edge are guided along the chip guiding surface without any abrupt changes in direction during guiding" as having its plain and ordinary meaning.

5. "the chips remain in substantially continuous contact with the chip guiding surface during guiding"

The parties' next dispute concerns the construction of the term "the chips remain in substantially continuous contact with the chip guiding surface during guiding." Andritz asserts that the Court should give the term its plain and ordinary meaning. (ECF No. 47 at 37.) Relying on the '958 patent specification and its disclaimer argument, Cortex responds that the term should be construed to mean that "the values of α and β as shown in Fig. 8 are 29° and 4°, respectively." (ECF No. 50 at 32.)

The Court is not persuaded by Cortex's arguments. As discussed, the '958 patent prosecution history does not reveal a clear and unambiguous disclaimer or disavowal of claim scope by the inventor. Further, although the patent specification states that the "[m]ost preferred value of α and β are 29° and 4°, respectively" (ECF No. 47-4 at 11), it does not require that α and β must be 29° and 4°, respectively.[9] Accordingly, because Cortex's proposed construction erroneously reads limitations into the claims, the Court construes "the chips remain in substantially continuous contact with the chip guiding surface during guiding" as having its plain and ordinary meaning.

6. "dihedral acute angle"

During the hearing, the parties agreed that the Court should give "dihedral acute angle" its plain and ordinary meaning. The Court agrees and therefore adopts that construction here.

7. "concave surface"

The parties' joint claim construction and prehearing statement does not identify "concave surface" as a disputed term for the '958 patent. (*See* ECF No. 46 at 25-28; *see also* ECF No. 51

[9] Figure 8 on page thirty-two "illustrates angular values associated with various embodiments of the invention." (ECF No. 47-4 at 11.)

at 42, reflecting that although Cortex did not identify "concave surface" as a disputed term for the '958 patent, "Andritz is generally comfortable with a construction of 'concave surface' as [a] 'surface that curves inward'" but objects to Cortex's proposed construction, "an inwardly rounded surface with no abrupt changes in direction").

The Court concludes that its construction of "concave surface" discussed above (i.e., a "surface that curves inward") also aligns with the '958 patent's descriptions and drawings of the invention. (*See* ECF No. 47-4 at 7, 9, 11, showing and describing the surface that curves inward "between the first inner edge forming surface and the ridge" similar to 72 in Figure 3). The '958 patent specification does not necessarily limit the invention to chip guidance without "abrupt changes in direction," as some of the claims discussed therein refer to the absence of "abrupt changes in directions" and some do not. The Court therefore construes "concave surface" to mean a "surface that curves inward."

8. "means for engaging"

The parties' final dispute concerns the construction of the term "means for engaging." Andritz asserts that the Court should construe "means for engaging" to mean "features that correspond with the corresponding engaging features on the outer side of the knife." (ECF No. 47 at 40.) Cortex initially argued that "means for engaging" should be construed to mean "a pair of parallel grooves configured to engage with corresponding parallel ridges on the outer clamping member" (ECF No. 50 at 36), and clarified its proposed construction at the hearing: "a pair of parallel grooves configured to engage with corresponding parallel ridges on the outer side of the knife body." (5/28/21 Tr. at 92:16-20.)

The parties agree that "means for engaging" is a means-plus-function limitation and that the construction of such a limitation involves two steps. First, the Court must "determine the claimed function." *JVW Enters., Inc. v. Interact Accessories, Inc.*, 424 F.3d 1324, 1330 (Fed. Cir.

2005) (citing *Omega Eng'g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1321 (Fed. Cir. 2003)). Second, the Court must "identify the corresponding structure in the written description that performs that function." *Id.* A structure is only deemed "corresponding" when the patent "specification or prosecution history clearly links or associates that structure to the function recited in the claim." *Default Proof Credit Card Sys., Inc. v. Home Depot U.S.A., Inc.*, 412 F.3d 1291, 1298 (Fed. Cir. 2005).

The term "means for engaging" appears in claims twenty-six and twenty-seven of the '958 patent. (*See* ECF No. 47-4 at 13-14, describing "an outer clamping member having a knife engaging means for engaging the outside of the knife body and determining the position of the knife with respect to the outer clamping member"). The parties "agree[] that the function performed is 'engaging the outside of the knife body and determining the position of the knife with respect to the outer clamping member.'" (ECF No. 51 at 43.) The Court agrees and therefore focuses on the "corresponding structure in the written description that performs that function."

The Court concludes that the clamping member, which has the "knife engaging means for engaging the outside of the knife body and determining the position," is the corresponding structure in the written description that performs the agreed-upon function. Although the patent specification reflects that the means for engaging "can" include a pair of parallel grooves, it also states that "[t]hose skilled in the relevant art will recognize that suitable designs for the engaging portions, both those on the outside of the knife and those on the outer clamping member, are not limited to the design shown" in Figure 6 (i.e., "parallel ridges"), and that "suitable designs are any that provide support . . . and limit the knife's displacement with respect to the outer clamping

member." (ECF No. 47-4 at 10.) Accordingly, the Court construes "means for engaging" as "features that correspond with corresponding engaging features on the outer side of the knife."

CONCLUSION

Based on the foregoing reasons, the Court construes the seventeen disputed claim terms as follows:

1. "localize[d]" or "localization" means "concentrated toward a definite place or locality";
2. "clamping force[s]" or "force exerted (on or by) the rear clamping component" are given their plain and ordinary meaning;
3. "the locating forces balance substantially to zero" is given its plain and ordinary meaning;
4. "non load bearing" is given its plain and ordinary meaning;
5. "smooth" or "smooth uninterrupted" are given their plain and ordinary meaning;
6. "concave hollow[s]" means an "indentation that curves inward";
7. "convex projection" means a "projection that curves outward";
8. "directed toward," "sized and shaped to direct clamping forces . . . away from said [] middle section," and "to direct the clamping force" are given their plain and ordinary meaning;
9. {"register with," "engages with," or "engaging"} "only at said [opposed] clamping features" means "making contact only upon the opposed clamping forces";
10. "concave surface" means a "surface that curves inward";

11. "is exposed to [wood] chip flow during use" is given its plain and ordinary meaning;

12. "to provide a chip guiding function during use" is given its plain and ordinary meaning;

13. "has no distinguishable boundary with" is given its plain and ordinary meaning;

14. "chips cut by the first cutting edge are guided along the chip guiding surface without any abrupt changes in direction during guiding" is given its plain and ordinary meaning;

15. "the chips remain in substantially continuous contact with the chip guiding surface during guiding" is given its plain and ordinary meaning;

16. "dihedral acute angle" is given its plain and ordinary meaning; and

17. "means for engaging" means "features that correspond with corresponding engaging features on the outer side of the knife."

IT IS SO ORDERED.

DATED this 30th day of July, 2021.

Stacie F. Beckerman

HON. STACIE F. BECKERMAN
United States Magistrate Judge